



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10

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OFFICE OF
WATER AND WATERSHEDS

Reply To: Attn: OWW-191

3/24/2015

Susan Childs
Alaska Venture Support Integrator, Manager
Shell Gulf of Mexico, Inc.
3601 C Street, Suite 1000
Anchorage, AK 99503

RE: EPA Review of Notice of Intent Applications for Discharge Under National Pollutant Discharge Elimination System (NPDES) General Permit for Oil and Gas Exploration Facilities on the Outer Continental Shelf in the Chukchi Sea (No. AKG-28-8100)

Dear Ms. Childs:

The purpose of this letter is to summarize the Environmental Protection Agency's (EPA) review of the Notice of Intent (NOI) application packages submitted by Shell Gulf of Mexico Inc. (Shell) on January 22 and January 29, 2015. Shell requested authorization from the EPA to discharge from four exploration well locations in the Chukchi Sea beginning in July 2015.

The NOI packages included separate applications for two exploratory facilities, the Noble *Discoverer* (*Discoverer*) and the Transocean *Polar Pioneer* (*Polar Pioneer*), to discharge waste streams at each of the Burger F, Burger J, Burger S and Burger V well sites. As such, the EPA received a total of eight NOI applications.

The EPA has shared our review comments with your staff during the meeting in Seattle on March 18, 2015, and summarized in further detail below. Since the eight NOI application packages contain the same or similar information, our comments are applicable to all of them.

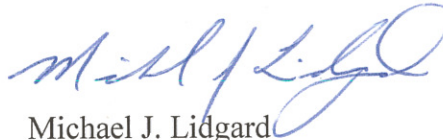
1. **LINE DRAWING AND FLOW BALANCE.** The NOI requires submission of a "line drawing that shows the flow, including rates/volumes of each discharged waste streams through facility. The line drawing must contain a flow balance showing average and maximum flow rates between intakes, operations, treatment units and outfalls." This requirement has not been fulfilled. The line drawings that have been submitted only identify the outfalls associated with each Discharge Number for each drill rig.
2. **DISCHARGE RATE/VOLUMES.** The NOI requires a table summarizing the discharge rates (e.g. volumes per day or per hour) for the requested waste streams per well and total volumes per well. Although Shell's NOI package included a Discharge Rates/Volumes Table, EPA requests the following additional clarification:
 - a. **DISCHARGE 001 (D001) DISCHARGE RATE.** Shell indicates in all the NOIs that the D001 discharge rates are 72 (Burger J), 80 (Burger F), 82 (Burger S) and 88 (Burger V) bbl per hour for both the *Discoverer* and the *Polar Pioneer*. There is no discussion as to why the discharge rates would vary based on drilling location. Similarly, we assume that each exploratory facility would drill at a different rate; as such, the projected rate of discharge would presumably be different for each facility.

- b. **DISCHARGE 001 PROJECTED VOLUME PER WELL.** Shell provided a projected total discharge volume for D001 per season and indicated via footnote 1 that the assumed season is approximately 120 days. This information does not meet the NOI requirements of reporting discharge rate/volume per well. EPA also cannot reconcile the estimated volumes per well with the volumes identified Shell's Chukchi Sea Exploration Plan (Revision 2 August 2014).
 - c. **DISCHARGE 004 ESTIMATED VOLUMES:** Shell stated within the Best Management Plan (BMPs) that domestic waste will not be metered, but volumes are estimated based on the number of people on-board each exploratory facility. Table 4-1 in the BMPs for both facilities indicates that the discharge rate is 100 gallons per person per day (*Discoverer*) and 75 gallons per person per day (*Polar Pioneer*). Please provide clarification in BMP Section 4.4. as to how these rates were developed for each exploratory facility and why they are not more similar.
 - d. **DEPTH OF DISCHARGE:** The last column of the table titled, "Treatment Process/Disposal Practice" does not fulfill the NOI requirements to submit "a detailed description of the disposal mechanism of the facility, the treatment processes, and disposal practices (e.g., backhauled, reinjected, discharged)." The information in the last column appears to only present the depths of discharge, which is also a requirement of the NOI. EPA found the relevant treatment processes and disposal practices information located within Sections 4 and 7 of the BMPs. EPA recommends retitling the column to say, "Depth of Discharge" and suggests referencing the applicable BMP sections that discuss the treatment process/disposal practices.
 - e. **DEPTH DISCHARGE (POLAR PIONEER):** The Discharge Rates/Volume table specifies that the *Polar Pioneer* will discharge D001 approximately 20 feet below the waterline, however, the *Polar Pioneer* BMP states that this discharge will occur 35 feet below the water surface (Shell Polar Pioneer BMP, pg 43). Please clarify which is the accurate depth of discharge.
3. **ENVIRONMENTAL MONITORING PROGRAM PLAN OF STUDY:** Shell did not adequately address Issue #1 raised by EPA in the email dated 9/12/13. EPA requested that Shell specify how Phase I pre-existing data would be used to evaluate the potential effects from drilling discharges based on data collected during Phases III and IV. Shell has added language to Section 5.4 of the EMP Plan of Study; however, the discussion is deficient in detail and approach. Please revise this discussion consistent with the conversation during the Shell-EPA meeting on March 18, 2015.
 4. **BEST MANAGEMENT PRACTICES (BMP) PLAN:** The referenced Appendices to the BMPs have not been submitted.
 5. **MLC ROV MODELING REPORTS:** The NOI applications included modeling reports for the ROV-MLC technology. It is EPA's understanding that Shell intends to utilize the traditional drill bit technology to construct the mudline cellar in 2015. To avoid confusion, please remove all documents associated with the ROV-MLC from the NOI application package.

As discussed during the March 18 meeting, EPA would appreciate submission of the complete NOI application package that address our comments by April 17, 2015. EPA plans to complete the second review of the NOI information by early May, at which point we will post the NOI packages on our website. EPA has committed to completing this step prior to making our final permit coverage decisions.

Thank you and if you have any questions regarding this information, please feel free to contact me at (206) 553-1755 or Erin Seyfried of my staff at Seyfried.Erin@epa.gov and (206) 553-1448.

Sincerely,



Michael J. Lidgard
NPDES Unit Manager
Office of Water and Watersheds

Cc: Greg Horner - Shell
Cc: Heather Ptak - Shell
Cc: Lana Davis - Shell